

NMEC Working Group

Wednesday, May 15, 2019 at 1:30-3:00pm

Hosted by CPUC and PG&E

Facilitated by Michelle Vigen Ralston, Common Spark Consulting



*Pacific Gas and
Electric Company*[®]

Agenda

1. Welcome - Recap of Activities since Meeting 1
2. Proposed “Buckets” – Issues & Questions
 1. Priority Issues
 2. OK-for-Now/Next Round Priorities
 3. Other Next Round Issues
3. Volunteers to Tackle Issues
4. Next Steps – What to Expect

Next Meeting: Full afternoon of Monday, June 4, in-person at the CPUC



Welcome

Coby Rudolph, CPUC

- May-June 2019 meetings will focus on key guidance for population-level NMEC
 - Identify priority areas on which guidance are needed and can be established in this initial round of meetings.
 - Recommendations should:
 - Be based on participants' expertise and known best practices
 - Propose interim guidelines/principles *and* areas for further study
 - Output: report on consensus recommendations



Welcome – Recap of Activities

- Meeting 1
 - Over 70 participants across gov't, PA, third-party, contractor, consultant, NGO
 - Definition and delineation of “population-level NMEC” (popNMEC)
 - Generally, the right direction
 - Number of outstanding issues – boundaries of site-level, RCT, what constitutes a population
- 40+ Response to the Survey
 - Identified broad set of issue areas
 - Identified greatest interest and priority areas, tallied where greatest interest and questions were

If you did not complete the survey, it is helpful for you to still do so. It helps the facilitation team identify who wants to contribute to which topic areas.

http://bit.ly/NMEC_WG_Survey

Some terms and definitions

Caroline Massad Francis, PG&E

Can we agree to use the below terms for discussion purposes? Proposed definitions below:

- Normalization factor
 - Normalize = adjust energy consumption during different time periods to common operating conditions (Site-level rulebook)
 - Normalization factor = independent variable = “routine event” = “control”
- Non-routine event:
 - “Externally driven...significant change affecting energy use in the baseline or the reporting period and therefore must be accounted for in savings estimations” (Site-level rulebook)
- Exogenous = externally-driven (i.e., unrelated to the EE intervention)
- Comparison group vs. control group
 - Comparison group = constructed after participants have been participating in the program
 - Control group = group not chosen through randomization in an experimental design
- Outlier *site*
 - A site with atypical savings, compared to most program participants (threshold and factors TBD)

Definition: Population NMEC

- Savings are claimed at the cohort/program level (i.e., group of sites)
- **Consistent** approach to measure savings across all sites in the population
 - Could aggregate site-level estimates where all sites use the same methods/approach
 - Could pool savings, modeling savings across a population
- Factors that drive energy consumption are **consistent** across all sites
- Data from all sites are collected and prepared for analysis the same way; same data collected from all sites, and data are treated consistently (i.e., same rules to determine outliers). Values may differ across sites.

Clarification still needed for certain concepts in the above definition.

OK with this, with understanding of needed clarification?

Proposed Buckets: 4 Priority Buckets

- Do these **priority (green) buckets** make sense? Can we get them done in the next few weeks?

<u>Defining Population NMEC</u>	<u>Aggregate population eligibility</u>	<u>Comparison groups</u>	<u>Exogenous factors, NREs, Outlier sites</u>
<ul style="list-style-type: none">- Population-level vs. Site-level vs. Aggregate vs. RCT/experimental- Aggregating sites in the population using the same approach vs. pooled approaches or another approach?- Other Factors<ul style="list-style-type: none">- Permissible project types or site types, qualifying measures (do they need to be the same?)- Expected savings impact	<ul style="list-style-type: none">- What is sufficient/needed to form a "population" – Quantity? Level of statistical power?- Significance of factors:<ul style="list-style-type: none">- Savings claim (program level)- Cohort size- Building type/use- Building size/scale of energy use or savings- Model fit- Other factors?	<ul style="list-style-type: none">- When and/or why is a comparison group appropriate/necessary?- What risks/uncertainty does a comparison group mitigate? (e.g., exogenous factors?) <p>IF TIME:</p> <ul style="list-style-type: none">- What are appropriate criteria for evaluating a matching approach?	<ul style="list-style-type: none">- When do NREs effectively cancel out in populations? What factors matter?- What approaches for identifying and addressing NREs are appropriate within a population-level program?- NREs vs. Outlier sites?- Outlier sites: What impact do outliers have at a population level? How are outlier sites identified and treated?- What should happen when a site becomes disqualified (e.g., due to an EV or solar)?

Proposed Buckets: 3 Next-Round Buckets

- For-Now Recommendations: Open for feedback, not priority for discussion
- Can these **next-round (orange) buckets** wait for now? Can programs still run? Will we gain valuable information by waiting?

<u>Net-to-Gross for NMEC</u>	<u>Measure-Level Analysis, Lifecycle Savings, EUL</u>	<u>Modeling, Baseline, Normalization</u>	<u>Process, Review, and Roles</u>
<i>For-Now Recommendation:</i> <ul style="list-style-type: none">- The CPUC has provided default values for NMEC programs (Nonresidential=0.90, SF Res=0.85 and Multifamily =0.55)- Arguments and/or methodologies to propose any alternative NTG must be delineated fully in the M&V plan, and are subject to PA and CPUC review.	<i>For-Now Recommendation:</i> <ul style="list-style-type: none">- Past HOPPs and current P4P solicitations are accepting a weighted average EUL approach for estimated savings for NMEC proposals. (First-year savings are measured at the meter and lifecycle savings are based on First-year savings*weighted average EUL.)- Additional questions remain about when and how known longer persistence of savings might be claimed, beyond meter M&V.	<i>For-Now Recommendation</i> <ul style="list-style-type: none">- What is normalized, in the context of population NMEC (Weather normalization? Other factors?)- Identify factors up-front that need to be adjusted to achieve common operating conditions across time periods	<i>For-Now Recommendation:</i> <ul style="list-style-type: none">- The goal is to provide standard requirements for M&V plans, that once approved by the PA, can be paid upon once the M&V implementation has been verified to match the pre-approved M&V.- Need to balance the risk of the implementers and the participants; what are factors that PAs and implementers should consider in balancing that risk?- In the interim: “Payable” savings – may be (for a number of factors) different than savings PAs claim

Proposed Buckets: Other Questions

- Other questions we can either put to rest or postpone for now
- Are these or any **other (gray)** topics more important than a **priority (green) bucket** at this moment?

<u>Metered Data Access, Click-Through</u>	<u>Sampling and Extrapolating Savings</u>	<u>Postponed Issues</u>
<ul style="list-style-type: none">- What barriers exist there for click-through and efficient data access, how do we overcome them?- How does the kind of data we retrieve from NMEC efforts drive our definition and approach of population level NMEC? <p><i>This is part of a separate proceeding. It can impact NMEC programs, but this group will not discuss it at this time.</i></p>	<ul style="list-style-type: none">- Can sampling from site-level NMEC be used to estimate population level savings?- If so, how, and what is required to use a sample to make population estimates? <p><i>Short answer: no. This is essentially the foundation of deemed savings. NMEC is based on actual meter data from all participants. Sampling to estimate population-level savings will not be discussed.</i></p>	<ul style="list-style-type: none">- Rules for calculating metered energy savings for solar customers. To be included in an NMEC program, solar production data would need to be available for analysis; current programs generally exclude solar customers. How to address EE vs. RE divide?- Opportunity to claim both EE and DR, other DER/load-shaping impacts from population-level NMEC programs?- Pay for Performance program design elements



RESULTING Buckets: Priority Buckets

Defining Population NMEC; Aggregate Population Eligibility

- Population-level vs. Site-level vs. Aggregate vs. RCT/experimental
- Aggregating sites in the population using the same approach vs. pooled approaches or another approach?
- Other Factors
 - Permissible project types or site types, qualifying measures (do they need to be the same?)
 - Expected savings impact
- What is sufficient/needed to form a "population" – Quantity? Level of statistical power?
- Significance of factors:
 - Savings claim (program level)
 - Cohort size
 - Building type/use
 - Building size/scale of energy use or savings
 - Model fit
 - Other factors?
- How to handle different approaches for pooled methodologies?

Process, Review, Roles, and Evaluation

- The goal is to provide standard requirements for M&V plans, that once approved by the PA, can be paid upon once the M&V implementation has been verified to match the pre-approved M&V.
- Need to balance the risk of the implementers and the participants; what are factors that PAs and implementers should consider in balancing that risk?
- In the interim: "Payable" savings – may be (for a number of factors) different than savings PAs claim

RESULTING Buckets: Priority Buckets

Modeling: Baseline, Normalization, Comprison Groups, Exogenous Factors, NREs, and Outlier Sites

Baseline and Normalization

- What is normalized, in the context of population NMEC (Weather normalization? Other factors?)
- Identify factors up-front that need to be adjusted to achieve common operating conditions across time periods

Comparison Groups

- When and/or why is a comparison group appropriate/necessary?
- What risks/uncertainty does a comparison group mitigate? (e.g., exogenous factors?)
- What are appropriate criteria for evaluating a matching approach?

NREs, Exogenous, Outlier Sites

- When do NREs effectively cancel out in populations? What factors matter?
- What approaches for identifying and addressing NREs are appropriate within a population-level program?
- NREs vs. Outlier sites?
- Outlier sites: What impact do outliers have at a population level? How are outlier sites identified and treated?
- What should happen when a site becomes disqualified (e.g., due to an EV or solar)?

RESULTING Buckets: Next-Round Buckets

- For-Now Recommendations: Open for feedback, not priority for discussion

Net-to-Gross for NMEC

For-Now Recommendation:

- The CPUC has provided default values for NMEC programs (Nonresidential=0.90, SF Res=0.85 and Multifamily =0.55)
- Arguments and/or methodologies to propose any alternative NTG must be delineated fully in the M&V plan, and are subject to PA and CPUC review.

Measure-Level Analysis, Lifecycle Savings, EUL

For-Now Recommendation:

- Past HOPPs and current P4P solicitations are accepting a weighted average EUL approach for estimated savings for NMEC proposals. (First-year savings are measured at the meter and lifecycle savings are based on First-year savings*weighted average EUL.)
- Additional questions remain about when and how known longer persistence of savings might be claimed, beyond meter M&V.

RESULTING Buckets: Other Questions

- Other questions we can either put to rest or postpone for now
- Are these or any **other (gray)** topics more important than a **priority (green) bucket** at this moment?

<u>Metered Data Access, Click-Through</u>	<u>Sampling and Extrapolating Savings</u>	<u>Postponed Issues</u>
<ul style="list-style-type: none">- What barriers exist there for click-through and efficient data access, how do we overcome them?- How does the kind of data we retrieve from NMEC efforts drive our definition and approach of population level NMEC? <p><i>This is part of a separate proceeding. It can impact NMEC programs, but this group will not discuss it at this time.</i></p>	<ul style="list-style-type: none">- Can sampling from site-level NMEC be used to estimate population level savings?- If so, how, and what is required to use a sample to make population estimates? <p><i>Short answer: no. This is essentially the foundation of deemed savings. NMEC is based on actual meter data from all participants. Sampling to estimate population-level savings will not be discussed.</i></p>	<ul style="list-style-type: none">- Rules for calculating metered energy savings for solar customers. To be included in an NMEC program, solar production data would need to be available for analysis; current programs generally exclude solar customers. How to address EE vs. RE divide?- Opportunity to claim both EE and DR, other DER/load-shaping impacts from population-level NMEC programs?- Pay for Performance program design elements



What next? Priority Bucket Small Groups

- Volunteers for each Bucket – indicate in Chat what you're interested in.
 - If you also indicated interest in a topic in the survey, I'll also include you.
- Michelle will reach out via email to those small groups with questions, and solicit proposals, ideas, and dialogue.
 - Will arrange phone conversations if needed.
- Goals of small group/offline work
 - Determine which questions are critical to answer at this juncture
 - Propose, vet, and refine proposals (answers to questions) for June 4 presentation and breakout discussion

Volunteers!

<u>Defining Population NMEC + aggregate population eligibility criteria</u>	<u>Baseline and Normalization*</u>	<u>Comparison groups*</u>	<u>Exogenous factors, NREs, and Outlier sites*</u>	<u>Process, Review, and Roles</u>
Eddie Abadi Hassan, Recurve (whoa!)	Athena Besa Elliott Weinberg	Stefanie Wayland Jonathan Budner, BIG Brian Smith, PG&E	Pranesh Venugopal Athena Besa McGee Caroline or Ben/PG&E David Jump Andrew Royal	Athena Besa Adam Marc Costa CPUC Caroline MF, PG&E Hilary Polis

Plus, Michelle will include those indicating interest in their survey responses for a particular issues in initial small group emails.

*These buckets may be combined into one larger bucket.

Next Steps

- Fill out survey if you haven't yet: http://bit.ly/NMEC_WG_Survey
 - Ensures your inclusion on Work Group emails going forward.
- Send any other feedback to Michelle (michelle@common-spark.com)
- Next Meeting – June 4
 - Results from small groups will take the form of straw proposals to be presented at the June meeting
 - Breakout sessions to provide detailed presentations, refine
 - Will check on consensus support, questions, and topics for next round of NMEC WG

Thank you & Contact Info

- Coby Rudolph, CPUC
- Caroline Massad Francis, PG&E
- Michelle Vigen Ralston, Common Spark (facilitator)

Work Group Contact: michelle@common-spark.com

Reference: Working Group Process

- ✓ Meeting 1 (May 6 webinar): Intro, Scope, Definition of Population-level NMEC
- ✓ Meeting 2 (May 15 webinar): Confirm Definition, Propose “buckets” of priority topics
- Between Meetings: Development of Straw Proposals
 - Working Group members to volunteer proposals and ideas in writing to Michelle and in small groups
 - Michelle may convene calls with small groups if there’s a wide range of positions
- Meeting 3 (June 4 in-person @ CPUC): Present straw proposals, breakout groups to refine and present revisions, straw poll on consensus
- Meeting 4 (June 12 webinar): Update on final results